

## Patent Claims

1. Method for generating assignment information for  
assigning signal-path identifiers of signal paths of  
5 at least two different digitally stored circuit  
descriptions (4, 5) in accordance with a second  
description format for describing digital circuits,  
wherein the at least two circuit descriptions (4, 5)  
are each generated by converting a circuit description  
10 (1) in accordance with a first description format, and  
the circuit description (1) in accordance with the  
first description format has a higher information  
content in regard to the signal-path identifiers than  
the circuit descriptions (4, 5) in accordance with the  
15 second description format, characterized in that the  
assignment information is generated as a function of  
the at least two circuit descriptions (4, 5) in  
accordance with the second description format and as a  
function of at least a part of the circuit description  
20 (1) in accordance with the first description format.
2. Method according to Claim 1, characterized in that the  
first description format is a description at the  
register-transfer level.  
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3. Method according to either of the preceding claims,  
characterized in that the second description format is  
a network-list format.
- 30 4. Method according to any one of the preceding claims,  
characterized in that the assignment information is  
generated as a function of signal-path identifiers

that identify a plurality of interrelated signal paths.

5. Method according to any one of the preceding claims,  
5 characterized in that the second description format stores digital circuits at a lower abstraction level than the first description format.
6. Method according to any one of the preceding claims,  
10 characterized in that the assignment information is digitally stored.
7. Device for generating assignment information for  
assigning signal-path identifiers of signal paths of  
15 at least two digitally stored circuit descriptions (4, 5) in accordance with a second description format for describing digital circuits, wherein the at least two circuit descriptions (4, 5) are each generated by  
converting a circuit description (1) in accordance  
20 with a first description format, and the circuit description (1) in accordance with the first description format comprises a higher information content in regard to the signal-path identifiers than the circuit descriptions (4, 5) in accordance with the  
25 second description format, characterized in that the device has means for reading the digitally stored circuit descriptions (4, 5) in accordance with the second description format and for reading the circuit description (1) in accordance with the first  
30 description format and data processing means, wherein the data processing means are designed in such a way that they generate the assignment information as a

function of the at least two circuit descriptions (4, 5) in accordance with the second description format and at least a part of the circuit description (1) in accordance with the first description format.

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8. Device according to Claim 7, characterized in that the device is designed to perform a method according to any one of Claims 1 to 6.

10 9. Digital storage medium having electronically readable control signals that are designed in such a way that they can interact with a programmable data processing device in such a way that the data processing device executes a method according to any one of Claims 1 to  
15 6.

10. Computer-program product comprising a program code, stored on a machine-readable medium, for performing a method according to any one of Claims 1 to 6 if the  
20 program runs on a computer or is used in it.

11. Method for generating a digitally stored circuit description (4, 5) in accordance with a second description format of a digital circuit from a circuit  
25 description (1) in accordance with a first description format of the digital circuit, wherein the circuit description (4, 5) in accordance with the second description format stores the digital circuit at a lower abstraction level than the circuit description  
30 (1) in accordance with the first description format, and the circuit descriptions (1, 4, 5) in accordance with the two description formats each comprise signal-

path identifiers of signal paths of the digital circuit, characterized in that the circuit description (4, 5) in accordance with the second description format is generated in such a way that it has just as  
5 high an information content in regard to the signal-path identifiers as the circuit description (1) in accordance with the first description format.

12. Method according to Claim 11, characterized in that  
10 the circuit description (4, 5) in accordance with the second description format is generated in such a way that it contains information about changes in the signal-path identifiers of the circuit description (1) in accordance with the first description format as  
15 compared to the signal-path identifiers of the generated circuit description (4, 5) in accordance with the second description format.

13. Method according to Claim 11 or 12, characterized in  
20 that the circuit description (4, 5) in accordance with the second description format is generated in such a way that it comprises signal-path group identifiers that indicate which signal paths in the circuit description (1) in accordance with the first  
25 description format are provided with signal-path identifiers forming a group.

14. Method according to Claim 13, characterized in that  
30 the signal-path group identifiers in the circuit description (4, 5) in accordance with the second description format are a reference to the signal-path identifiers in the circuit description (4, 5) in

accordance with the second description format whose assigned signal paths in the circuit description (1) in accordance with the first description format have as a group a common signal-path identifier.

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15. Device for generating a digitally stored circuit description (4, 5) of a digital circuit in accordance with a first description format from a circuit description (1) in accordance with a first description format of the digital circuit, wherein the circuit description (4, 5) in accordance with the second description format stores the digital circuit in a lower abstraction level than the circuit description (1) in accordance with the first description format, and the circuit descriptions (1, 4, 5) in accordance with the two description formats each comprise signal-path identifiers of signal paths of the digital circuit, characterized in that the device has means for reading the digitally stored circuit description (1) in accordance with the first description format, means for writing the circuit description (4, 5) in accordance with the second description format and data processing means, wherein the data processing means are designed in such a way that they generate the circuit description (4, 5) in accordance with the second description format that has just as high an information content in regard to the signal-path identifiers as the circuit description (1) in accordance with the first description format.

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16. Device according to Claim 15, characterized in that the device is designed to perform a method according to any one of Claims 11 to 14.
- 5 17. Digital storage medium comprising electronically readable control signals that are designed in such a way that they can interact with a programmable data processing device in such a way that the data processing device executes a method according to any  
10 one of Claims 11 to 14.
18. Computer-program product comprising a program code, stored on a machine-readable medium, for performing a method according to any one of Claims 11 to 14 if the  
15 program runs on a computer or is used in it.